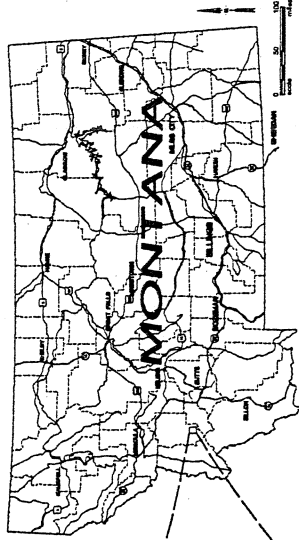
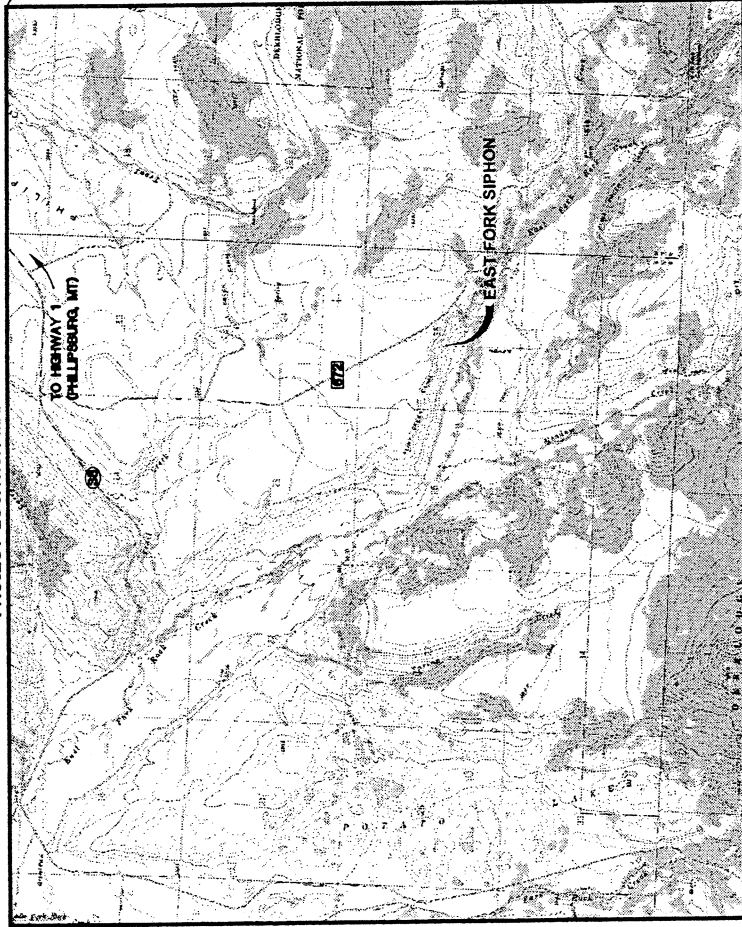


Appendix A – Final Design Plans, by HKM Engineering

EAST FORK SIPHON REPLACEMENT

GRANITE COUNTY, MONTANA

PROJECT LOCATION MAP



SHEET INDEX

SHT. NO.	DESCRIPTION	SHT. NO.	DESCRIPTION
G-1	COVER SHEET, PROJECT LOCATION, SHEET INDEX	D-5	DIVERSION DAM / ACCESS ROAD AND STREAM CROSSING DETAILS
G-2	PROJECT PLAN & COORDINATE TABLES	D-6	SEDIMENT TRAP DETAILS
PP-1	STATION 129+03 TO 141+00 PLAN & PROFILE	GS-1	GENERAL STRUCTURAL NOTES
PP-2	STATION 141+00 TO 154+00 PLAN & PROFILE	S-1	INLET STRUCTURE DEMOLITION AND CRACK REPAIR
PP-3	STATION 154+00 TO 167+00 PLAN & PROFILE	S-2	INLET STRUCTURE REHABILITATION DETAILS
PP-4	STATION 167+00 TO 189+45 PLAN & PROFILE	S-3	INLET STRUCTURE REHABILITATION DETAILS
XS-1	CROSS SECTIONS AT PIPE APPURTENANCES AND TRENCH DETAILS	S-4	INLET STRUCTURE REHABILITATION DETAILS
D-1	ACCESS PORT AND AIR VALVE DETAILS	S-5	OUTLET STRUCTURE REHABILITATION DETAILS
D-2	DRAIN ASSEMBLY DETAILS	S-6	RAILING DETAILS
D-3	DRAIN ASSEMBLY DETAILS	TP-1	TEST PIT LOGS
D-4	DRAIN ASSEMBLY AND MISCELLANEOUS DETAILS		

Prepared for :
The Montana
Department of Natural Resources
and Conservation



State Water Projects Bureau
P.O. Box 201601
Helena, MT 59620-1601
(406) 444-6846

Prepared by :



Approved: Kevin Smith, P.E., Chief
State Water Projects Bureau, Montana DNR/C



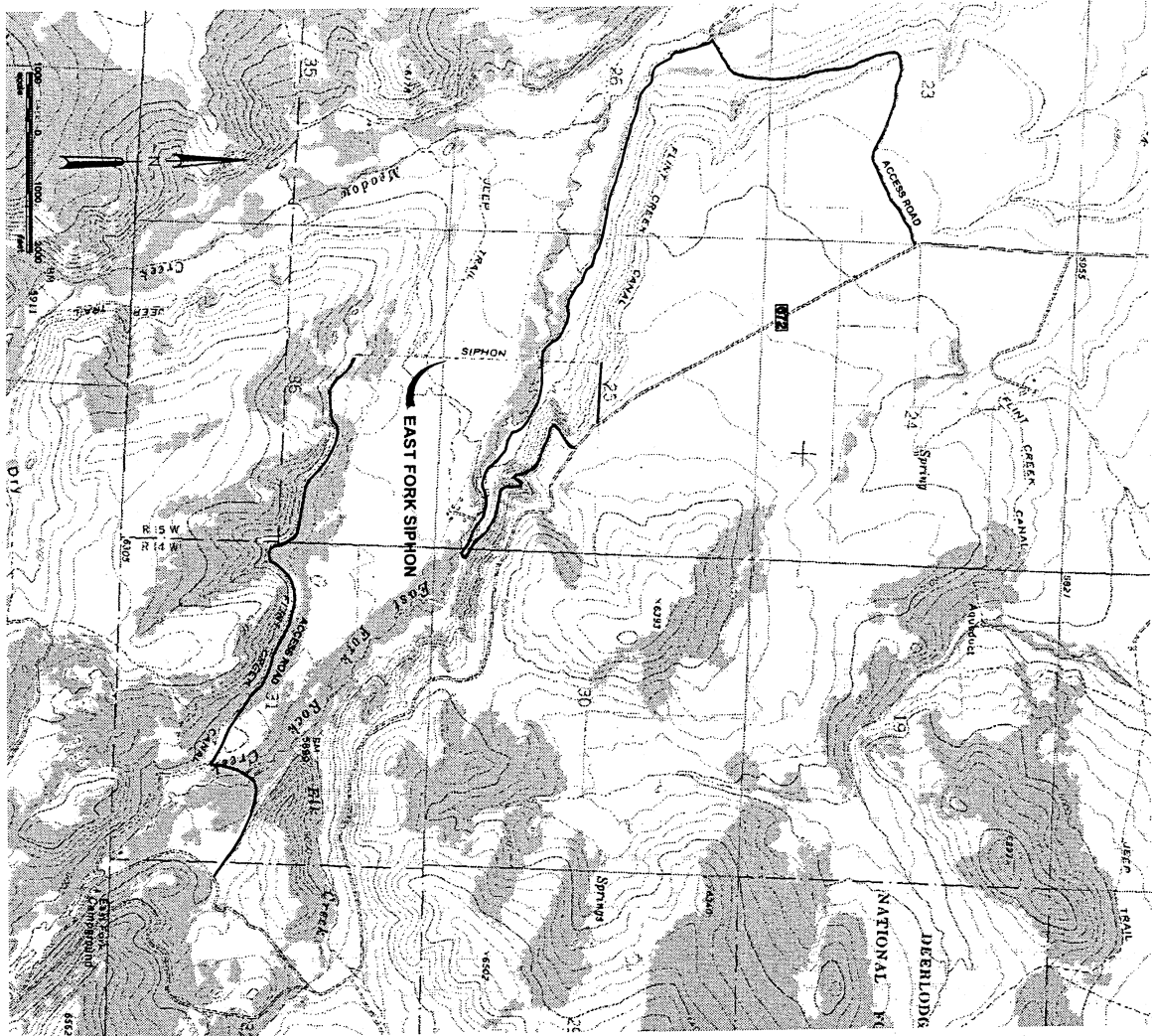
THE TSP HEREBY CERTIFIES THAT, "TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, JUDGMENT AND BELIEF, THESE PLANS MEET NRCS PRACTICE STANDARDS 4300D, 587 AND 572."

SINCE SMITH, P.E.
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PROJ. NO. 42M087.183

DECEMBER 2007

Sheet No.
G-1



CONTROL POINT COORDINATES:

POINT	NORTHING	EASTING	ELEVATION	NOTES
CP35	72016.477	97272.446	6628.65	5/8" REBAR W/RED PLASTIC CAP
CP36	72024.434	97484.719	6621.62	5/8" REBAR W/RED PLASTIC CAP
CP37	71813.644	97217.803	5714.43	5/8" REBAR W/RED PLASTIC CAP
CP41	715681.106	973057.390	5994.61	5/8" REBAR W/RED PLASTIC CAP
CP42	716123.9741	97481.0909	5973.27	5/8" REBAR W/RED PLASTIC CAP

NOTES:
1. CONTROL POINTS ESTABLISHED UNDER SEPARATE CONTRACT BY OTHERS.

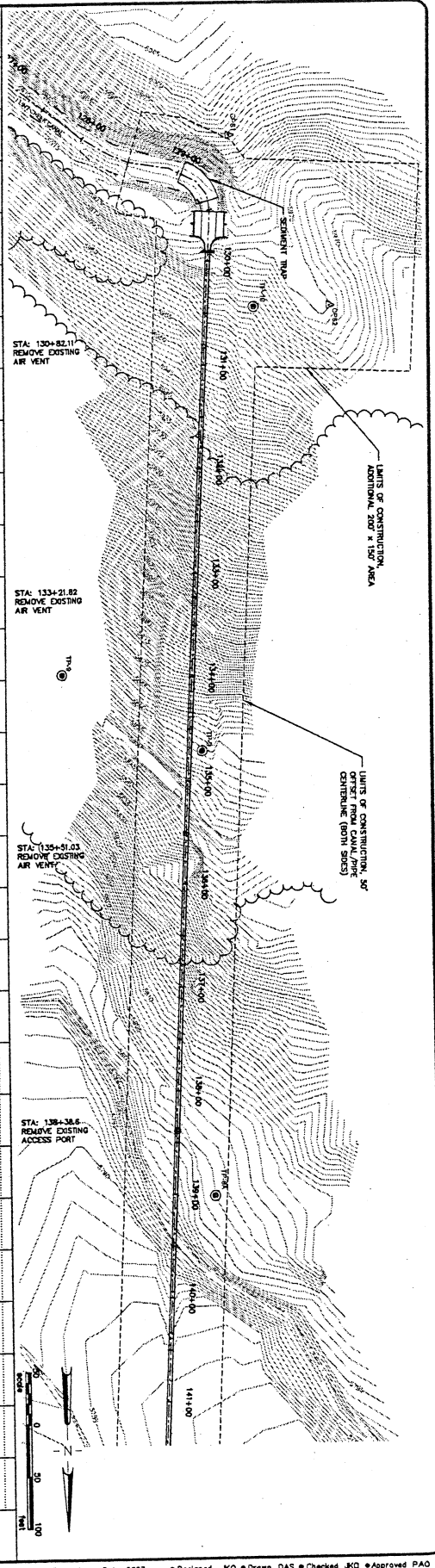
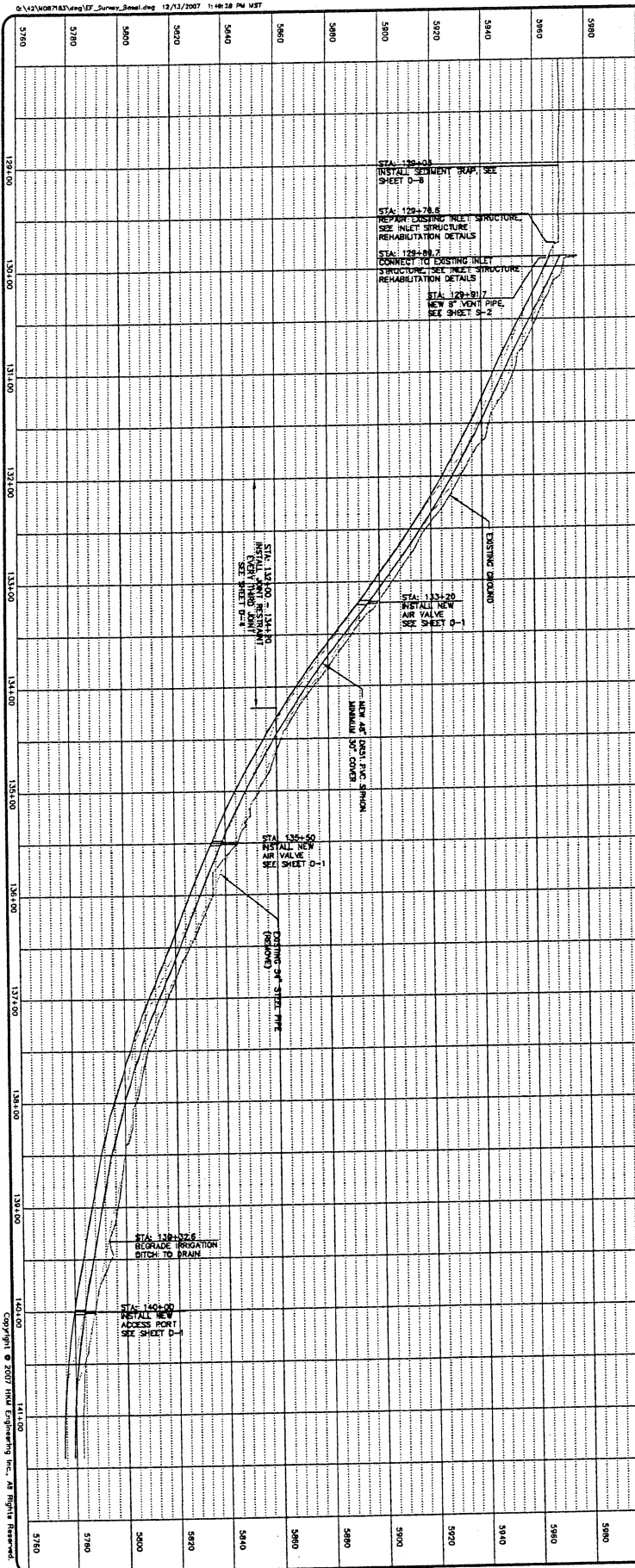
- BASE OF REBAR: GPS SURVEY-ORIS SOLUTION NAD83(1998) CORRS FT
STATE PLANE MONTANA ZONE 2500 COORDINATES
CSF = 0.98921285
- VERTICAL DATUM IS NAVD83-BASED UPON NOS MARKS P5623 (P50380) & P58 (P50265).

GENERAL NOTES:

- ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE EAST FORK SIPHON REPLACEMENT PROJECT MANUAL.
- BETTER CONDITION SHALL EXIST PRIOR TO CONSTRUCTION AS DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR THE PROTECTION OF ALL EXISTING UTILITIES AND STRUCTURES. ALL BRIGATIONS DITCHES DISTURBED DURING CONSTRUCTION ARE TO BE RECONSTRUCTED AT THEIR ORIGINAL LOCATION, GRADE, AND SIZE. THE PLANS MAY NOT INCLUDE ALL FENCES AND DITCHES THAT WILL NEED REMOVAL, RECONSTRUCTION AND/OR REPAIRS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE OWNERS OF UNDERGROUND UTILITIES & COMMUNAL UTILITIES TO THE LOCATION OF THEIR UNDERGROUND LINES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ANY DAMAGE DONE TO THESE INSTALLATIONS DUE TO FAILURE TO LOCATE THEM OR TO PROPERLY PROTECT THEM.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS AND FIELD MARKINGS OF THE VARIOUS UTILITIES INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION SERVICE AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES. CALL BEFORE YOU DIG. 1-800-424-5858.
- THE CONTRACTOR SHALL RESTRICT ACTIVITIES TO WITHIN THE LIMITS OF CONSTRUCTION SHOWN ON THE PLANS AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR THE PROTECTION OF ALL EXISTING UTILITIES AND STRUCTURES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ANY DAMAGE DONE TO THESE INSTALLATIONS DUE TO FAILURE TO LOCATE THEM OR TO PROPERLY PROTECT THEM.
- TEST PITS ARE SHOWN IN THE PLANS AT THEIR APPROXIMATE LOCATIONS AND DEPTHS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THESE TEST PITS AND FOR THE PROTECTION OF ALL EXISTING UTILITIES AND STRUCTURES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ANY DAMAGE DONE TO THESE INSTALLATIONS DUE TO FAILURE TO LOCATE THEM OR TO PROPERLY PROTECT THEM.
- THE VERTICAL PIPE ALIGNMENT HAS BEEN DEVELOPED BASED ON 20 FT PIPE LENGTHS AND MAXIMUM DEFLECTIONS OF 0.5 DEGREES. JOINT DEFLECTIONS ARE NOT TO EXCEED THAT RECOMMENDED BY THE MANUFACTURER.
- NO CONSTRUCTION ACTIVITY WILL BE ALLOWED IN EAST FORK ROCK CREEK BETWEEN SEPTEMBER 1, 2008 AND SEPTEMBER 25, 2008. DIVERSION DAM/ACCESS CROSSING MUST BE CONSTRUCTED PRIOR TO THE START OF THE DIVERSION PERIOD. SEE 124 PERMIT IN CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION.

LEGEND:

- Geotechnical Test Pit
- Survey Control Point
- Approximate Limit of Forested Area
- Barb Wire Fence
- Limits of Construction



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PP-1

Sheet No.

HCM

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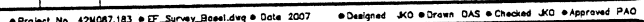
Project No. 42W087183 • EF_Survey_Sheet.dwg • Date 2007 • Designed: JKO • Drawn: DAS • Checked: JKO • Approved: PAO

EAST FORK SIPHON REPLACEMENT
GRANITE COUNTY, MONTANA

STATION 129+03 TO 141+00
PLAN AND PROFILE

WARNING
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No.	Revision	By	Date



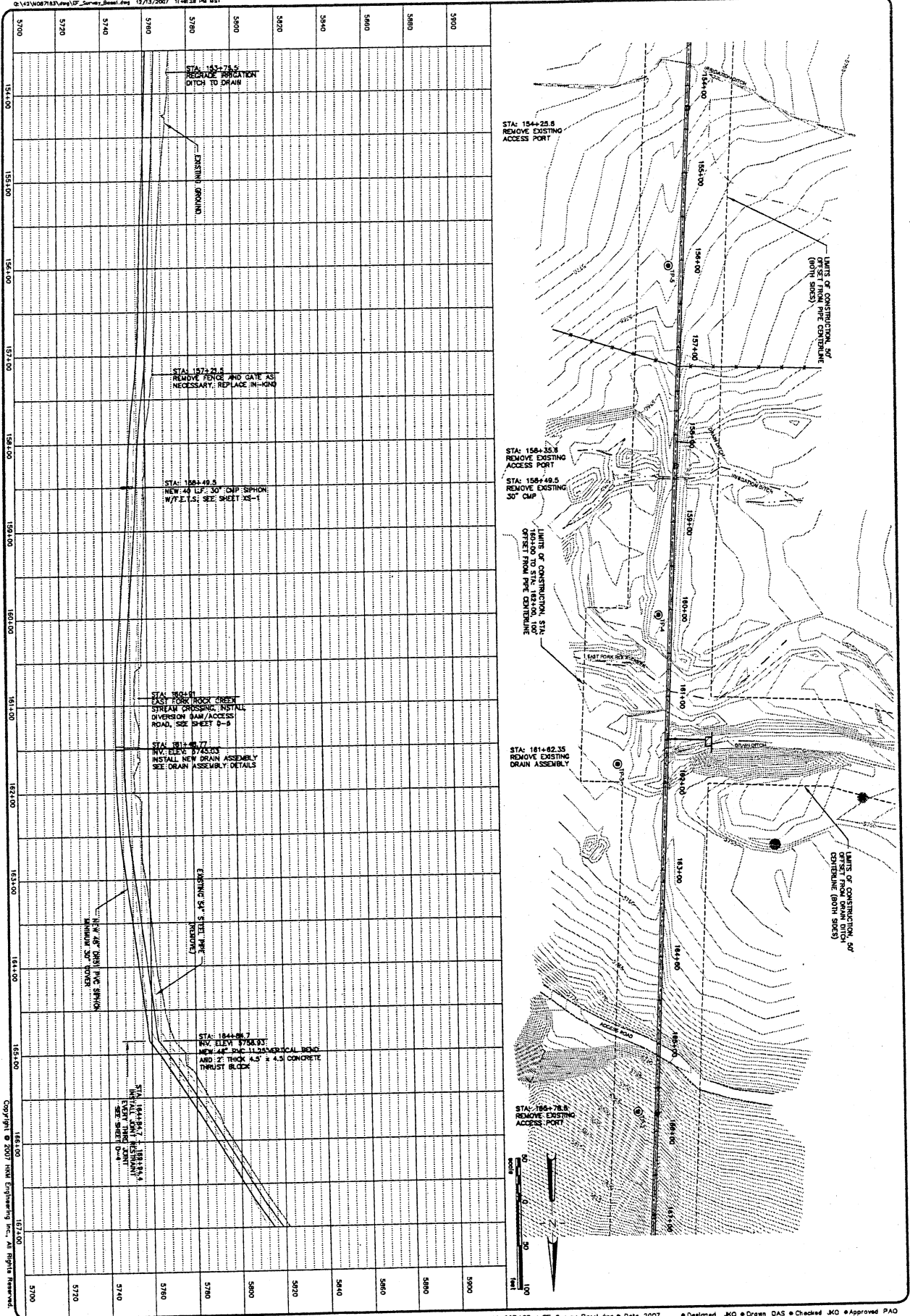
STATION 141+00 TO 154+00
PLAN AND PROFILE

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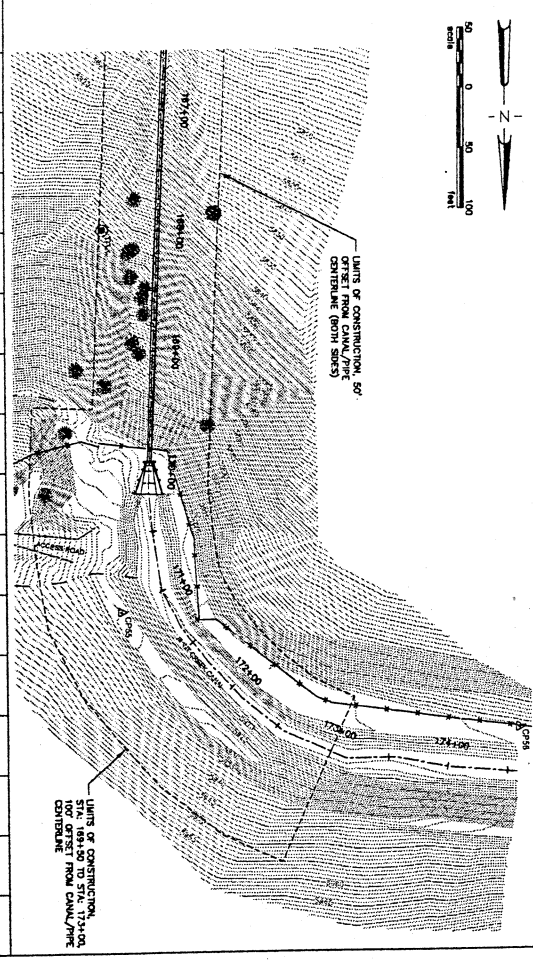
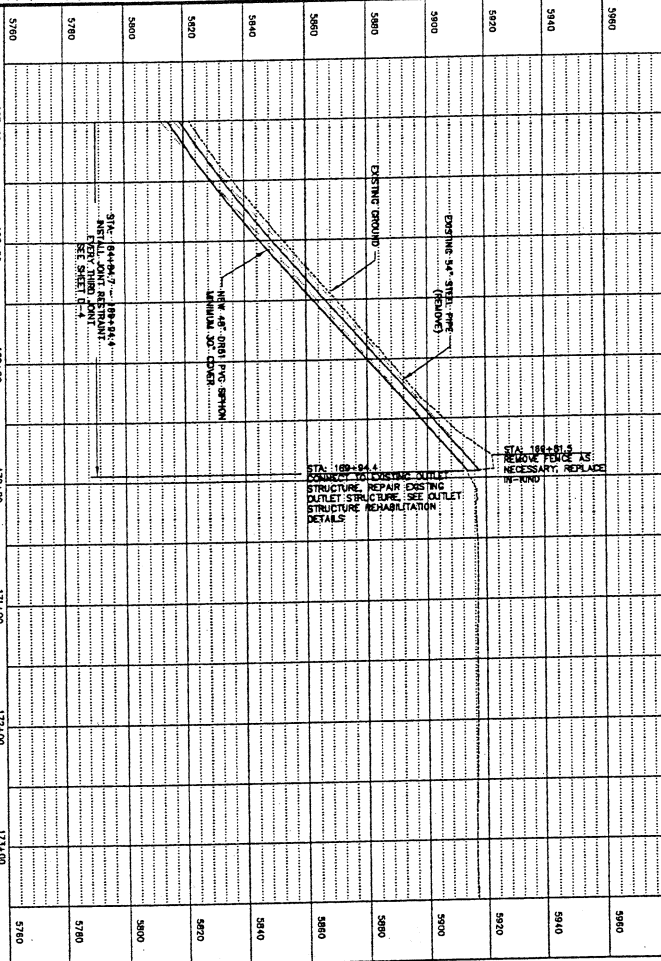
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**EAST FORK SIPHON REPLACEMENT
 GRANITE COUNTY, MONTANA**

**STATION 154+00 TO 167+00
 PLAN AND PROFILE**

WARNING
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No.	Revision	By	Date



VERTICAL ALIGNMENT CONTROL:

STATION	INVERT ELEVATION*	STATION	INVERT ELEVATION*	STATION	INVERT ELEVATION*	STATION	INVERT ELEVATION*
129+86.7	5806.56	140+80	5773.03	151+80	5762.83	162+80	5746.22
130+00	5804.58	141+00	5772.56	152+00	5762.82	163+00	5746.22
130+20	5804.75	141+20	5772.58	152+20	5762.82	163+20	5746.27
130+40	5804.88	141+40	5772.55	152+40	5762.81	163+40	5746.30
130+60	5804.90	141+60	5772.60	152+60	5762.81	163+60	5746.37
130+80	5804.87	141+80	5772.62	152+80	5762.80	163+80	5746.38
131+00	5804.56	142+00	5772.64	153+00	5762.59	164+00	5746.01
131+20	5804.75	142+20	5772.64	153+20	5762.59	164+20	5746.03
131+40	5803.84	142+40	5772.35	153+40	5762.18	164+40	5746.03
131+60	5803.84	142+60	5772.41	153+60	5762.07	164+60	5746.07
131+80	5802.70	142+80	5772.85	153+80	5762.07	164+80	5746.08
132+00	5802.18	143+00	5772.85	154+00	5762.35	165+00	5746.68
132+20	5801.35	143+20	5772.38	154+20	5762.35	165+20	5746.68
132+40	5801.35	143+40	5772.38	154+40	5762.15	165+40	5746.15
132+60	5800.88	143+60	5772.80	154+60	5762.15	165+60	5746.15
132+80	5800.88	143+80	5772.80	154+80	5762.15	165+80	5746.15
133+00	5800.88	144+00	5772.14	155+00	5762.24	166+00	5746.24
133+20	5800.88	144+20	5772.07	155+20	5762.88	166+20	5746.88
133+40	5800.51	144+40	5770.37	155+40	5762.48	166+40	5746.88
133+60	5800.51	144+60	5770.37	155+60	5762.48	166+60	5746.88
133+80	5800.51	144+80	5770.37	155+80	5762.48	166+80	5746.88
134+00	5800.51	145+00	5768.25	156+00	5762.01	167+00	5746.01
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140+80	5800.51	151+80	5768.25	162+80	5762.01		

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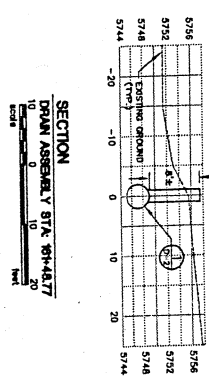
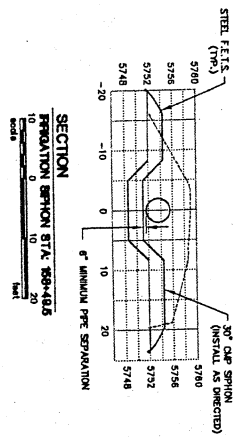
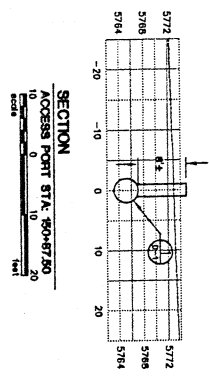
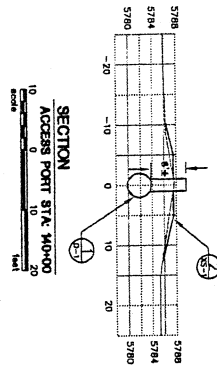
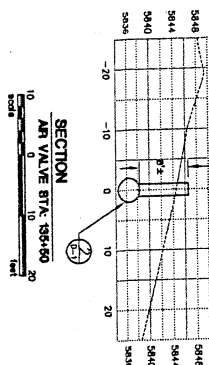
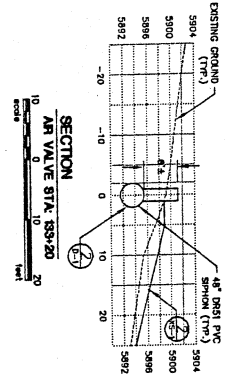
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EAST FORK SIPHON REPLACEMENT
GRANITE COUNTY, MONTANA

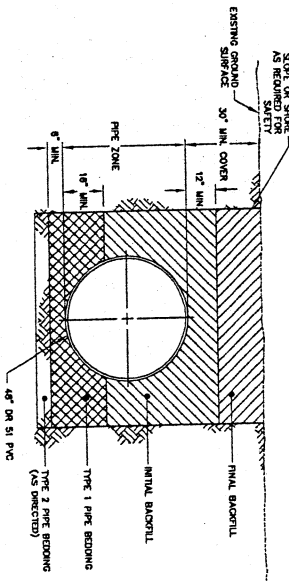
STATION 167+00 TO 169+95
PLAN AND PROFILE

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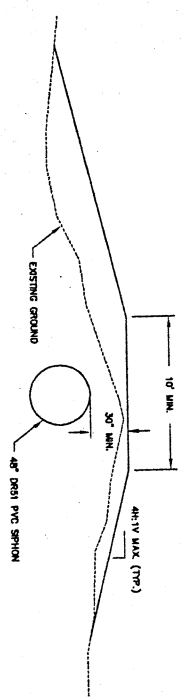
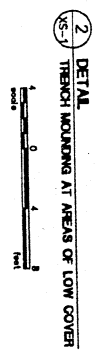
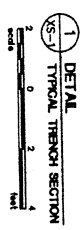
No.	Revision	By	Date



NOTE:
APPROXIMATE ELEVATION HEIGHTS SHOWN ARE FOR CONCEPTUAL PURPOSES ONLY AND ARE TO BE FIELD VERIFIED BY CONTRACTOR DURING CONSTRUCTION.



- NOTES:
1. ALL TRENCH EXCAVATION SHALL BE IN ACCORDANCE WITH D.S.H.A. STANDARDS.
 2. OVERLAYMENT AT LOW DENSITY OR UNSUITABLE FOUNDATION MATERIAL AND REPLACE WITH TYPE 2 PIPE BEDDING AS DIRECTED.



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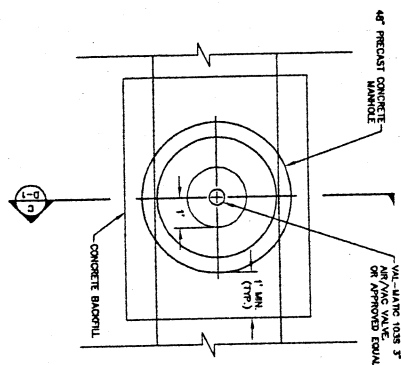
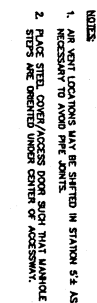
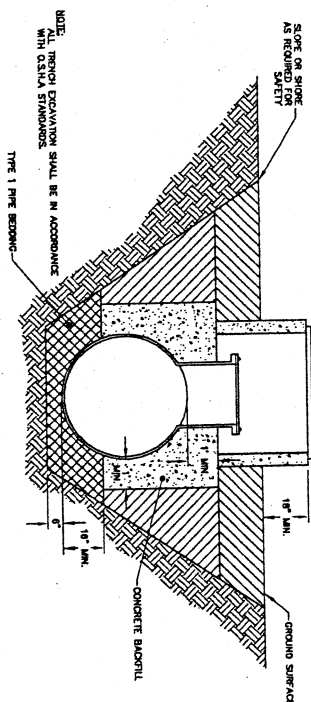
**EAST FORK SIPHON REPLACEMENT
GRANITE COUNTY, MONTANA**

**CROSS SECTIONS AT PIPE APPURTENANCES
AND TRENCH DETAILS**

WARNING
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No.	Revision	By	Date

Sheet No. **XS-1**



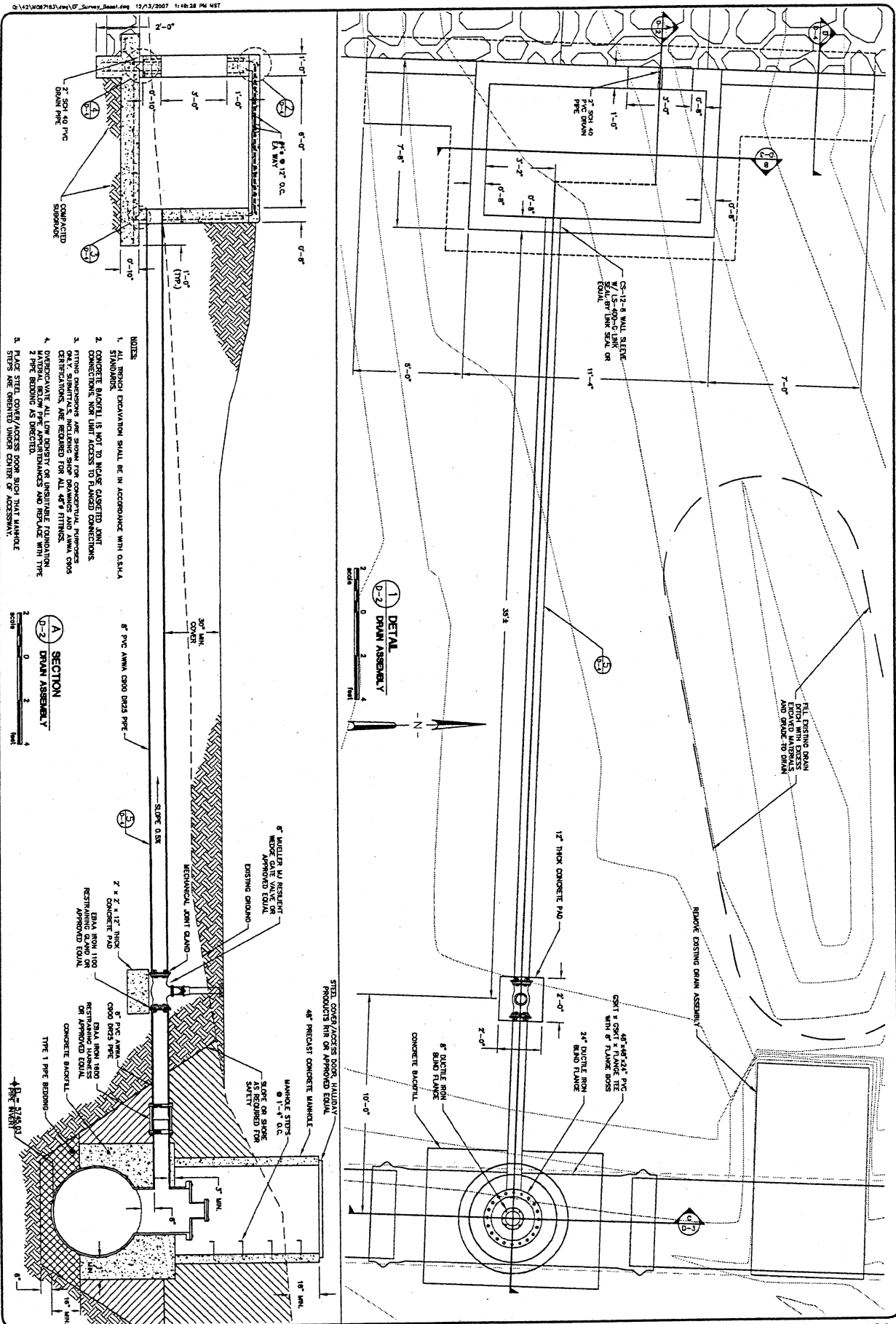
WARNING

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No.	Revision	By	Date





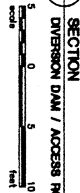
NOTE:
ALL TRENCH EXCAVATION SHALL BE IN ACCORDANCE WITH OSHA STANDARDS.

(C) SECTION
D-5 TYPICAL STREAM CROSSING TRENCH SECTION



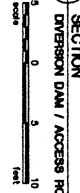
NOTE:
SECTION C TYPICAL FROM STA. 160+00 TO 161+20.

(B) SECTION
D-5 DIVERSION DAM / ACCESS ROAD



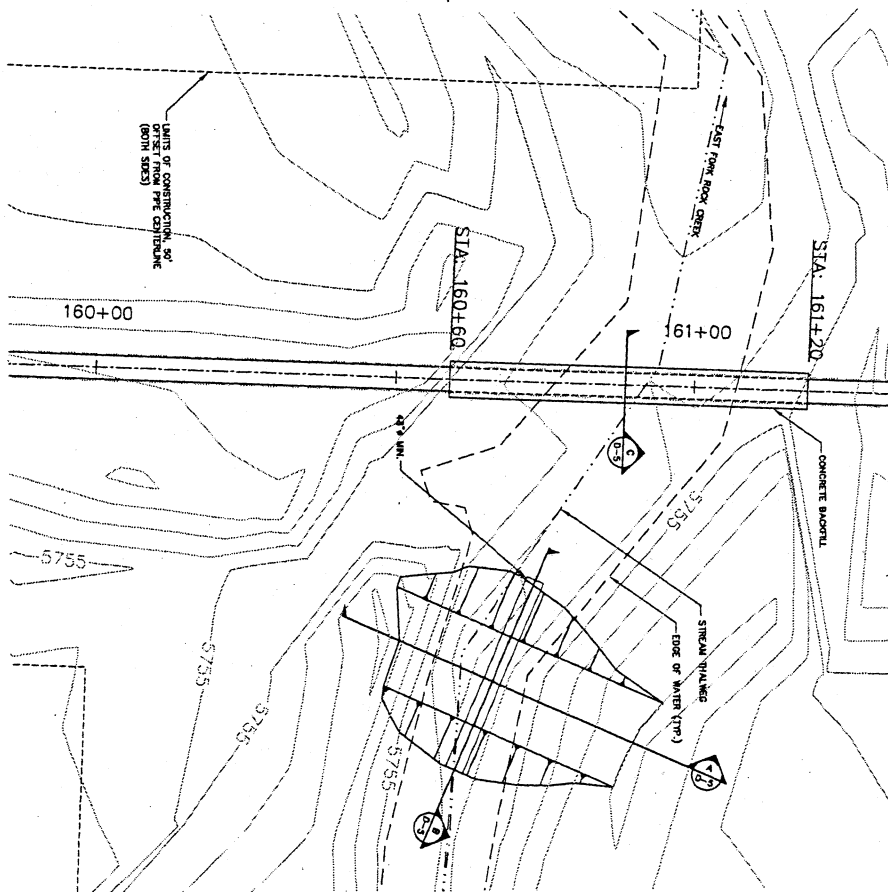
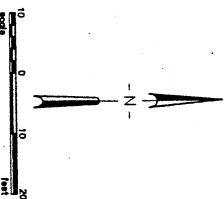
NOTES:
1. USE GEOTEXTILE - DESIGN CONTROL D-1 ON THE DOWNSTREAM AND DOWNSTREAM FACE OF THE STREAM CROSSING.
2. GEOTEXTILE TO BE KEPT INTO THE AND TOP OF FILL 1 MIN.

(A) SECTION
D-5 DIVERSION DAM / ACCESS ROAD



NOTE:
DRAIN AGGREGATE TO DRAIN 1\"/>

NOTES:
1. NO CONSTRUCTION ACTIVITY WILL BE ALLOWED IN EAST FORK ROCK CREEK BETWEEN THE DIVERSION DAM AND THE DIVERSION DAM / ACCESS ROAD. ALL CONSTRUCTION MUST BE COMPLETED BEFORE OR AFTER THIS TIME PERIOD FOR ROLL ROUT MOVEMENT. SEE 12A PERMIT IN CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION.
2. ACCESS CROSSING DIVERSION IS SIZED TO ACCOMMODATE THE ESTIMATED 2-YEAR PEAK FLOOD FLOW. THE DIVERSION DAM / ACCESS ROAD SHALL BE DESIGNED TO PREVENT FLOOD STAGE AND STORE EQUIPMENT ACCORDING TO PREVENT DAMAGE AND DISCHARGE INTO STREAM IN THE EVENT OF AN EXTREME FLOOD EVENT.
3. DIVERSION OF EAST FORK OF ROCK CREEK WILL BE REQUIRED FOR CONSTRUCTION OF THE DIVERSION DAM / ACCESS ROAD. CONSTRUCTION SHALL BE COMPLETED BY THE DIVERSION DAM / ACCESS ROAD. THE DIVERSION DAM / ACCESS ROAD SHALL BE DESIGNED TO PREVENT FLOOD STAGE AND STORE EQUIPMENT ACCORDING TO PREVENT DAMAGE AND DISCHARGE INTO STREAM IN THE EVENT OF AN EXTREME FLOOD EVENT.
4. EDGE OF WATER INDICATED ON PLANS REPRESENTS THE WATER SURFACE AT THE TIME OF THE SURVEY AND WILL VARY.



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EAST FORK SIPHON REPLACEMENT
GRANITE COUNTY, MT

DIVERSION DAM / ACCESS ROAD
AND STREAM CROSSING DETAILS

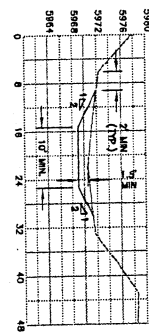
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No.	Revision	By	Date

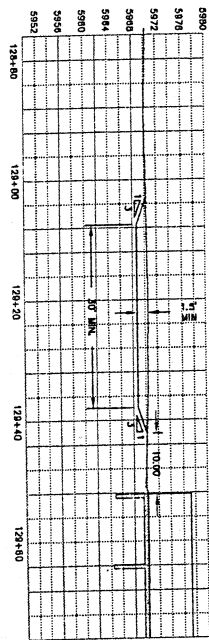
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D-5

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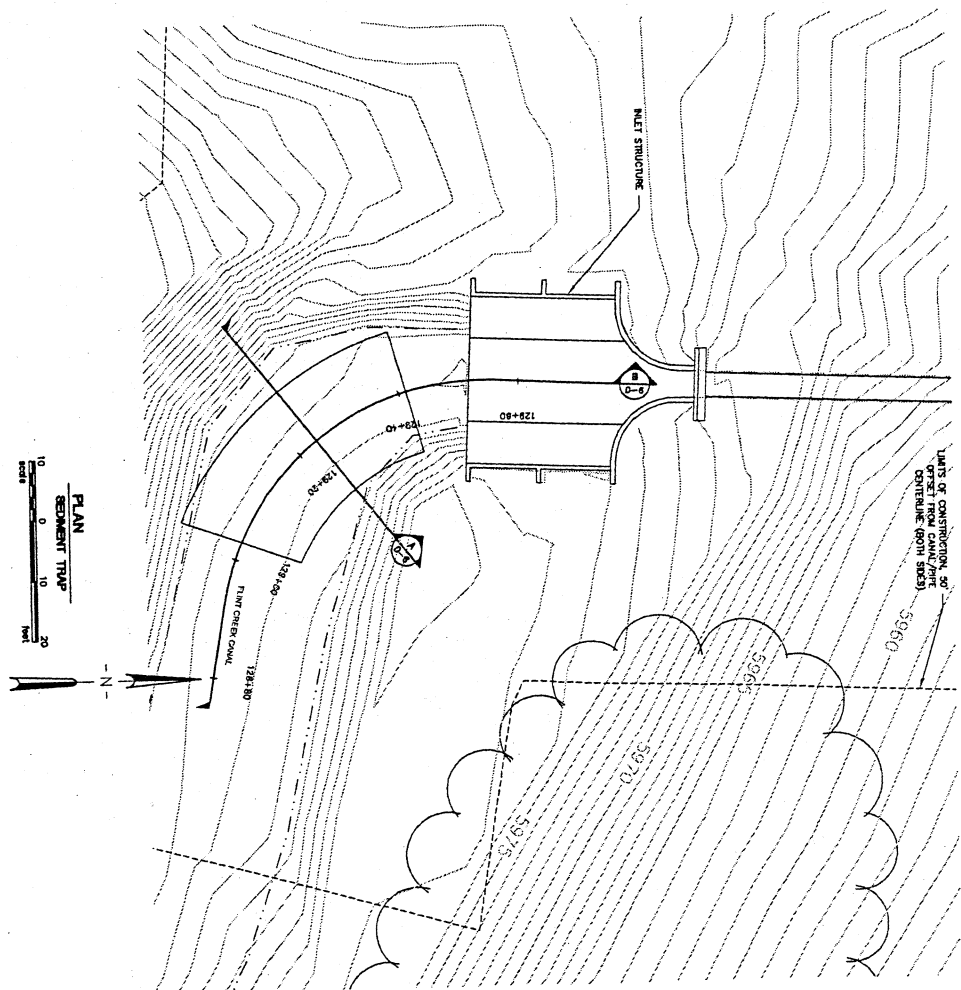




A
SECTION
D-6
SEDIMENT TRAP



B
SECTION
D-6
SEDIMENT TRAP



PLAN
SEDIMENT TRAP

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D-6

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Project No. 42M087.183 • CF_Survey_Sheet.dwg • Date 2007 • Designed JKO • Drawn QAS • Checked JKO • Approved PAQ

**EAST FORK SIPHON REPLACEMENT
GRANITE COUNTY, MT**

**SEDIMENT TRAP
DETAILS**

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STRUCTURAL NOTES

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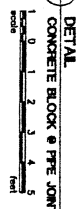




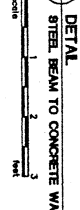
INLET STRUCTURE REHABILITATION DETAILS

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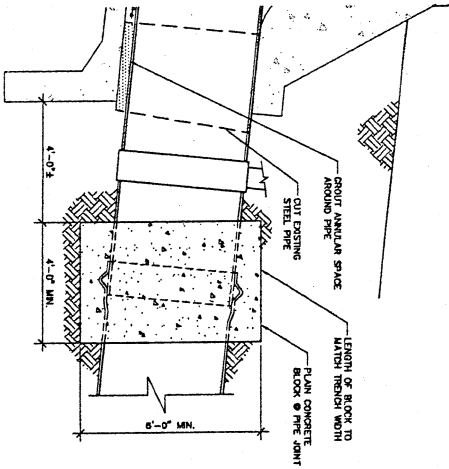
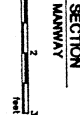
2 DETAIL
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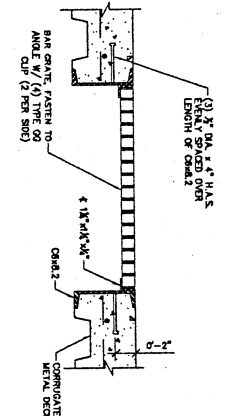
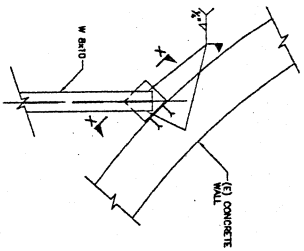
3 DETAIL
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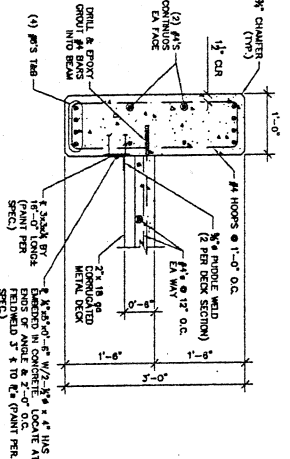
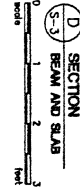
SECTION
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MANWAY



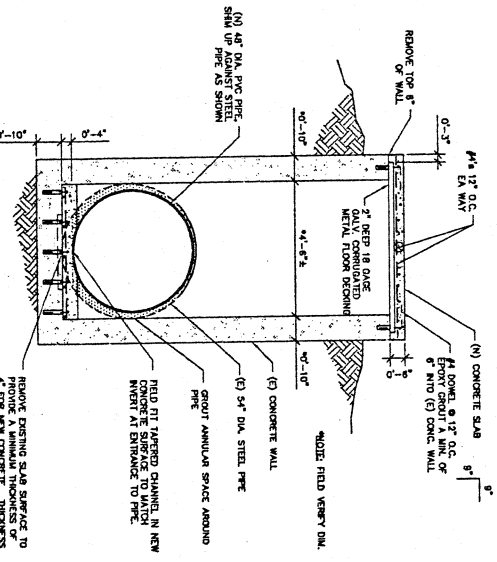
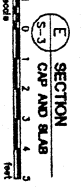
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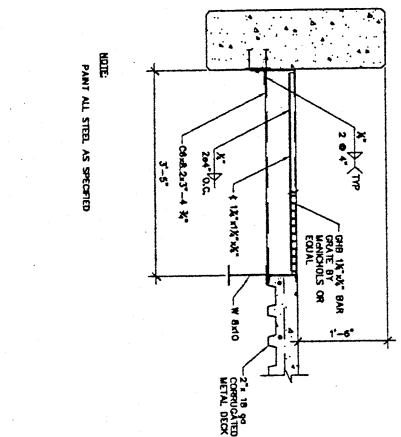
SECTION
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BEAM AND SLAB



SECTION
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CONCRETE WALL



SECTION
(S-3)
MANWAY



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S-3

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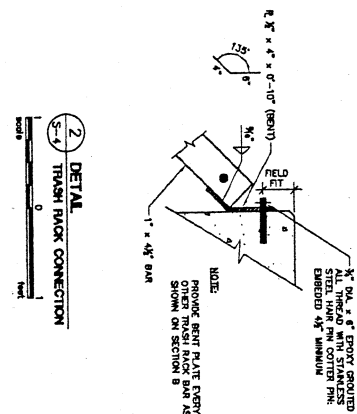
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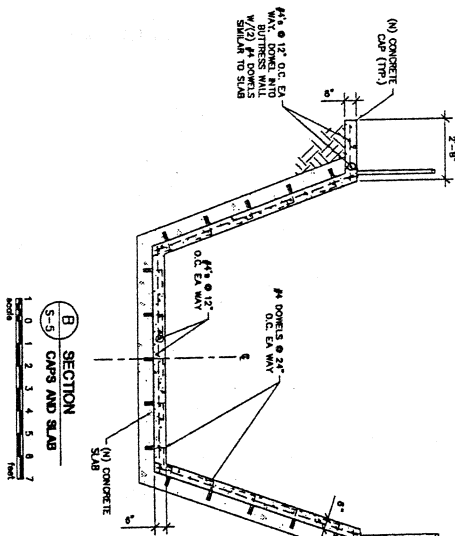
EAST FORK SIPHON REPLACEMENT
GRANITE COUNTY, MONTANA

INLET STRUCTURE
REHABILITATION DETAILS

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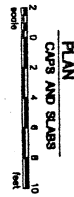




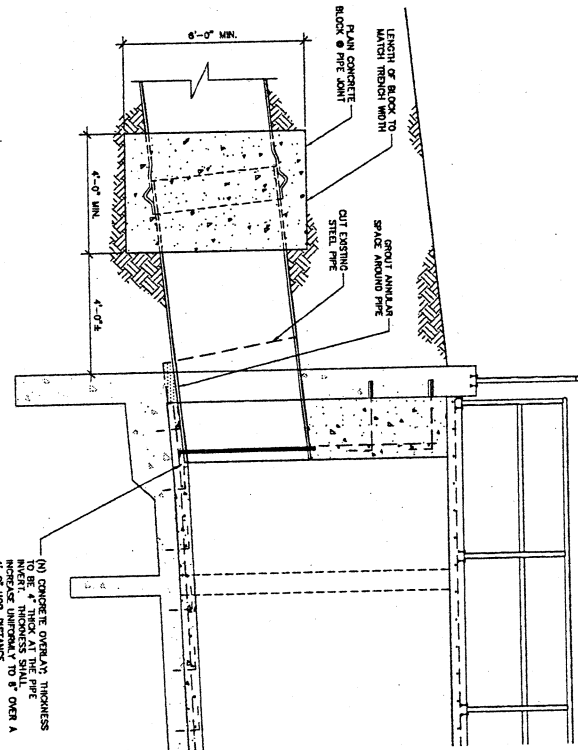
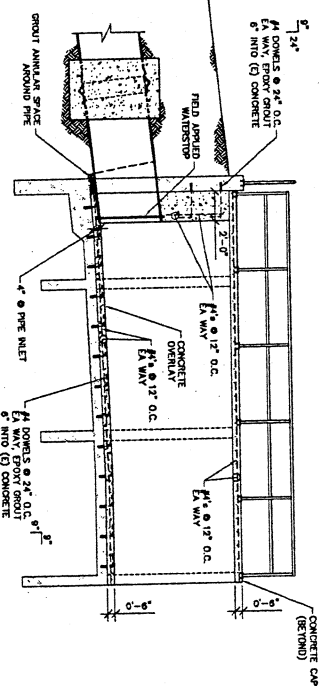
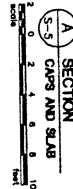
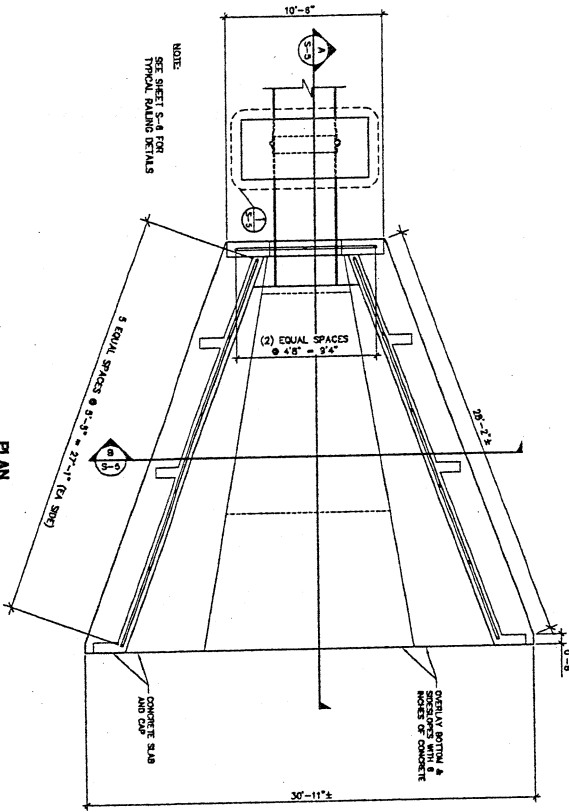
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NOTE:
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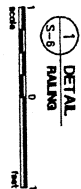
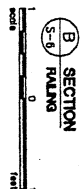
Project No. 424087.183 • 07_Structural.dwg • 2007 • Designed: GS • Drawn: JS/DAS • Checked: MLD • Approved: PAQ

**EAST FORK SIPHON REPLACEMENT
GRANITE COUNTY, MONTANA**

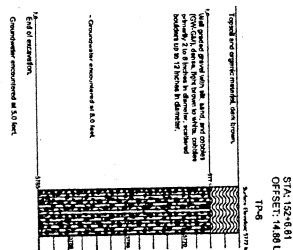
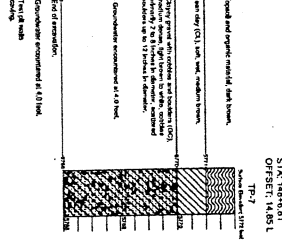
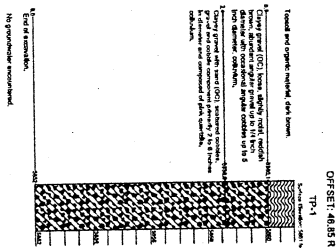
**OUTLET STRUCTURE
REHABILITATION DETAILS**

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1. TEST PIT LOCATIONS ARE SHOWN IN PLAN VIEW ON SHEETS PP-1 THROUGH PP-4.
2. FOR FURTHER INFORMATION SEE GEOTECHNICAL REPORT.



**Appendix B – NRCS Bull Trout Biological Assessment and DNRC
letter concerning the future replacement of the Main
Canal Diversion.**

BIOLOGICAL ASSESSMENT
FOR
UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

**REPLACEMENT OF AN IRRIGATION DIVERSION SIPHON
THROUGH THE EAST FORK OF ROCK CREEK THAT IS
LIKELY TO ADVERSELY AFFECT THE THREATENED
BULL TROUT**

March 10, 2008

TABLE OF CONTENTS

I.	SUMMARY.....	1
	Determination of Effects	1
	Consultation Requirements.....	1
	Need for Re-Assessment Based on Changed Conditions	1
II.	INTRODUCTION	1
III.	PROPOSED ACTION.....	2
	Background.....	2
	Construction Techniques to Minimize the Probability of “Take” of Bull Trout.....	2
IV.	SPECIES ASSESSMENT	3
	Distribution and Life History	3
	Environmental Baseline.....	3
	Direct and Indirect Effects Analysis.....	4
	Indicator: Subpopulation Size	5
	Indicator: Growth and Survival.....	6
	Indicator: Water Quality - Temperature.....	7
	Indicator: Sediment and Substrate Embeddedness	7
	Indicator: Chemical Contamination/Nutrients	8
	Indicator: Habitat Access - Physical Barriers	8
	Indicator: Large Woody Debris	8
	Indicator: Pool Frequency and Quality	9
	Indicator: Channel Condition and Dynamics - Average Channel Width:Depth Ratio.....	9
	Indicator: Streambank Condition	10
	Indicator: Floodplain Connectivity	10
	Indicator: Change in Peak/Base Flows	10
	Indicator: Disturbance Regime	11
	Indicator: Integration of Species and Habitat Conditions	11
	Table 1. Summary of Environmental Baseline and Project Effects	12
	Cumulative Effects Analysis	12
	Determination of Effects	13
V.	CONSULTATION CONTACTS	14
VI.	REFERENCES	14

I. SUMMARY

Determination of Effects

Implementation of the proposed federal action IS LIKELY TO ADVERSELY AFFECT the threatened bull trout (*Salvelinus confluentus*).

Consultation Requirements

In accordance with the Endangered Species Act (ESA), its implementation regulations (50 CFR 402.13), and FSM 2671.4, the United States Department of Agriculture – Natural Resources Conservation Service (NRCS) is required to request written concurrence from the United States Department of the Interior – United States Fish and Wildlife Service (FWS) with respect to determinations of potential effects on the threatened bull trout.

Need for Re-Assessment Based on Changed Conditions

The biological assessment findings are based on the best current data and scientific information available. A revised biological assessment must be prepared if: (1) new information reveals effects, which may impact threatened, endangered, and proposed species or their habitats in a manner or to an extent not considered in this assessment; (2) the proposed action is subsequently modified in a manner that causes an effect which was not considered in this assessment; or (3) a new species is listed or habitat identified which may be affected by the action.

II. INTRODUCTION

The purpose of a biological assessment is to review the possible effects of the proposed federal action on threatened, endangered and proposed species and their habitats. Threatened, endangered and proposed species are managed under the authority of the Federal Endangered Species Act (PL 93-205, as amended). Under provisions of the ESA, Federal agencies shall use their authorities to carry out programs for the conservation of listed species, and shall insure any action authorized, funded, or implemented by the agency is not likely to: (1) adversely affect listed species or designated critical habitat; (2) jeopardize the continued existence of proposed species; or (3) adversely modify proposed critical habitat (16 USC 1536).

The purpose of this biological assessment is to describe and analyze the adequacy of methods proposed to replace a failing irrigation siphon that transfers water across the East Fork of Rock Creek (see map) while minimizing any adverse effects on the threatened bull trout. NRCS State Office and Missoula Area Office biological staffs have developed this assessment in order to facilitate consultation.

III. PROPOSED ACTION

Background

The East Fork (of Rock Creek) dam, canal and siphon were completed in 1938 and put into service during the 1939 irrigation season. The dam and canal are owned and operated by the Montana Department of Natural Resources and Conservation (DNRC). The dam and canal headgate are located on U.S. Forest Service (USFS) land. East Fork Reservoir stores water for use in augmenting irrigation in the adjacent Flint Creek drainage. About one-third mile below the dam, water is diverted into the East Fork Canal and transported about 2.5 miles along the west side of the drainage where it enters a 54-inch diameter, 4056-foot long siphon. Over the course of the irrigation season, the siphon transfers 27,800 acre-feet of water underneath the East Fork, up the adjacent slope and into the Flint Creek drainage. This represents a 28 percent increase in watershed yield for Flint Creek which provides all or part of the irrigation needs for 53 operating units, primarily cow-calf operations, in that drainage.

The expected life of the siphon was 50 years. It is now 69 years old and requires annual repairs for continued operation. During June of 2001, the siphon burst and was shut down, drained and welded. There is a realistic probability of catastrophic failure of the siphon in the near future. This could deliver large quantities of sediment to the East Fork and the main stem of Rock Creek, which represent important bull trout habitat. Failure of the siphon would also lower flows in the Flint Creek drainage by a season total of 27,800 acre-feet. Flint Creek is classified as critical foraging, migration and over-wintering habitat for bull trout although Brad Liermann (personal communication, November, 2007), Fisheries Biologist for the Montana Fish, Wildlife and Parks (FWP) has found only one bull trout in the main stem of Flint Creek, just downstream of the mouth of Sawmill Gulch. Boulder Creek, however, a tributary of Flint Creek, has been identified as very important bull trout habitat.

Construction Techniques to Minimize the Probability of "Take" of Bull Trout

Actual work on the siphon replacement will not begin until Montana FWP issues a Montana Stream Protection Act '124' permit to DNRC for the project. FWP has indicated that the siphon replacement by itself will not pose a significant threat to bull trout if the permit stipulations are followed. Timing of work in the stream channel is key to minimizing adverse effects. The work will be completed between September 15 and November 1, 2008. If possible, work in the channel will be completed by October 15. While the siphon is being replaced underneath the East Fork channel, the stream will be diverted around the construction site through a pipe to minimize excess sediment production. Prior to this, a culvert will be placed in the stream channel and used as a crossing for equipment to minimize disturbance to the channel bed. When construction is complete, the temporary culvert will be removed and the streambanks will be re-vegetated with appropriate native herbaceous and woody species following NRCS standards and specifications.

Scope of this formal consultation

Through this Biological Assessment, NRCS is requesting an incidental take permit for construction activities associated with the siphon replacement only. A "take" permit is requested because there is the potential for short-term adverse impacts to bull trout directly from heavy equipment operation as well as indirectly from sediment inputs to the stream during construction.

On-going "take" of bull trout is occurring in the diversion canal above the siphon as fish are entrained in the East Fork Canal and 1) probably lost as they pass through the siphon; and 2) functionally lost to the population when they are isolated in the canal when the headgate is closed at the end of the irrigation season. However, this BA does not include effects of the irrigation system as a whole for two reasons:

1. NRCS has no ownership or control of any aspect of the irrigation system. We have no authority of any kind to require the Forest Service, DNRC, or the Flint Creek Water Users Association to carry out any activity related to canal headgate screening, spring flushing flows, etc. Therefore, we are not in a position, either legally or practically, to be the lead agency on a system-wide BA. The Forest Service, as the permitting agency, is in a position to serve as the lead agency on a system-wide BA if necessary.
2. The proposed activity does not pass the "but for" test used in the FWS ESA Handbook to document interrelatedness or interdependence. There is clearly a "yes" answer to the following question: Does the activity in question (i.e. the irrigation system at large) occur regardless of the proposed action under consultation (i.e. the siphon replacement)?

IV. SPECIES ASSESSMENT

Distribution and Life History

The Montana Bull Trout Scientific Group (1998) and the Montana Bull Trout Restoration Team (1998) have described the distribution and life history of Montana's bull trout in detail and are incorporated by reference here. To summarize, bull trout need stream and lake habitat that is characterized by the four "C's"; Clear, Cold, Complex and Connected. This very specialized char species tends to spawn in low gradient, cold headwater (third and fourth order) streams over gravel and cobbles in association with groundwater inputs. Eggs and fry are very sensitive to increases in water temperature and to sediment deposition over the gravel/cobble substrate. A site is unsuitable for bull trout spawning if greater than 40 percent of the substrate materials are less than 6.35 mm in diameter. It is critical that there be a source of cover adjacent to the spawning site such as deep pool habitat, coarse woody debris, large rocks and undercut banks. Fry emerge from the substrate during late winter to early spring. While rearing, juveniles prefer large particle sizes in the substrate with low embeddedness. A forest canopy is preferred for juvenile rearing sites. Bull trout may mature in the natal stream or move to larger rivers or lakes. There is variability in life history with regard to use of stream and lake habitat. Adults often move long distances between wintering and spawning areas.

Environmental Baseline

The East Fork of Rock Creek at the siphon crossing is used primarily by migrating adults and as juvenile bull trout rearing habitat (Brad Liermann, FWP, pers. com., 2007). The following is an overview of the status of the above-referenced four "C's" at the proposed project (siphon replacement) site.

Clear

Water leaving the East Fork Reservoir is generally very clean and clear. There is little source of sediment to the stream between the dam and siphon crossing other than some bank instability from livestock use. However, the siphon crossing is also a livestock watering point. Trampling by watering cattle here causes an un-quantified increase in sediment input to the East Fork downstream. Bank stability throughout the project reach has been degraded somewhat by livestock use which may cause an increase in sediment inputs as well. Montana Department of Environmental Quality (DEQ) lists the East Fork as "Not Supporting" aquatic life and a cold water fishery in part because of sediment production associated with grazing management and impacts from hydro-structure flow (Montana DEQ, Clean Water Act Information Center - CWAIC - 2006) and has required Total Maximum Daily Load (TMDL) development for this stream. Brad Liermann, FWP, evaluated the East Fork stream channel and riparian area at two sites near the proposed project reach using the NRCS Riparian Assessment method. The sample sites were approximately one and three miles downstream from the siphon crossing. He concluded that irrigation-related dewatering and bank instability associated with grazing management have contributed excess sediment to the system.

Cold

Bottom water exiting the East Fork Reservoir is very cold. However, on-going livestock management in the project reach has resulted in a wider, shallower stream channel compared to potential. Overhead cover from a variety of willow species has also been reduced by livestock, and possibly moose, browsing. These factors, in combination with lowered flows during the irrigation season result in elevated summer water temperatures over the historic condition. Brad Liermann, FWP, has recorded summer water temperatures as high as 17.5 degrees C at a site about three miles downstream from the siphon crossing. This could create a thermal barrier to bull trout upstream movement. (Note: Low summer flows may not be totally associated with irrigation withdrawals. DNRC has data showing that August -September monthly inflows to the East Fork Reservoir have varied from 2.5 to 16 cfs during the 2004-2006 period of measurement.).

Complex

Habitat complexity, in the form of large woody debris, side channel development, pool and riffle interspersions and undercut banks, has been simplified as a result of irrigation system operation and historic livestock grazing. Spring flushing flows are rare, which limits channel development and dynamics and is expected to exacerbate the whirling disease problem in Rock Creek. Livestock management has not allowed for willow regeneration adequate to provide sufficient overhead cover, woody debris, and bank stability. Low flows during the irrigation season deprive bull trout of deep pool habitat. The presence of the East Fork Dam prevents large woody material, i.e., conifer logs, from accumulating in the channel downstream. Brad Liermann, FWP, assessed the East Fork in terms of "fish habitat quality as related to available cover" at 30 percent of its potential at a site downstream of the siphon crossing.

Connected

Bull trout move long distances, up to 150 miles, between seasonal habitats. Operation of the East Fork Reservoir and canal has severely altered historic movement patterns. The dam prevents migration to important spawning habitat by bull trout that winter in main-stem rivers and lakes although it also prevents upstream movement of introduced brown trout that could compete with bull trout. The East Fork canal entrains an un-quantified number of fish; most of which probably die in the siphon. Both juvenile and adult bull trout as well as numerous juvenile cutthroat trout have been captured in the East Fork canal by USFS and FWP fisheries biologists (Brad Liermann, FWP, pers. comm.. 2007). Summertime low-flows may prevent movement of juvenile and adult bull trout upstream to spawning sites.

Direct and Indirect Effects Analysis

The following analysis is a modification of the methodology outlined in the draft document "A Framework to Assist in Making Endangered Species Act Determination of Effect for Individual or Grouped Actions at the Bull Trout Subpopulation Watershed Scale," U.S. Fish and Wildlife Service, February, 1998. Not all indicators in this document were evaluated, especially those more specific to the U.S. Forest Service planning process.

The purpose of this analysis is to describe the baseline bull trout habitat condition and to evaluate the effects of the siphon replacement on the baseline condition. It is important in this assessment to differentiate between the effects of the siphon replacement itself and effects of the overall irrigation project, including the dam and its operation, the canal, the inter-basin water transfer, and the effects of landowners reducing summer flows in the East Fork by exercising their legal water rights. This biological assessment evaluates the effects of the siphon replacement on bull trout and bull trout habitat. The discussion of overall project effects is necessary to describe baseline habitat conditions and to evaluate the effect of the siphon replacement on those conditions. NRCS has no ownership or control, of any kind, of the operation of the dam, canal or individual irrigation practices. To date, over \$180,000 has been spent on a design for the siphon replacement. If the siphon cannot be replaced in a timely fashion, i.e., by fall, 2008, the cost share funds available may be lost and the design money spent for naught. In addition, the longer siphon replacement is delayed, the greater the chance of a catastrophic failure resulting in negative downstream impacts to bull trout and their habitat. Finally, a functional canal and siphon must be in place before DNRC and the irrigators can proceed with other measures to benefit bull trout such as screening the canal inlet. Accordingly, we believe it is the best interest of bull trout conservation to proceed with the siphon replacement.

Indicator: Subpopulation Size

Operation of the East Fork irrigation project has placed the threatened bull trout in the "Functioning at Unacceptable Risk" category. Low flows during the irrigation season limit movement patterns and habitat quality. The dam prevents upstream and downstream movements of migrating adults and juveniles. The East Fork canal entrains bull trout which are then most likely lost as they pass through the siphon. Even if the fish do not enter the siphon, they are functionally lost to the population because the canal dries up after the irrigation season when the headgate is closed. Livestock grazing practices have degraded stream and adjacent riparian habitat quality, adding more stress to the fish residing in the project reach.

Effects of the Proposed Action

The proposed siphon replacement, in and of itself, will have no additional long-term effect on the East Fork and Flint Creek bull trout populations since existing conditions will be unchanged. In the short-term, increased sediment and direct habitat disturbance during construction has the possibility of causing "take" of juvenile and/or adult bull trout. Measures proposed to minimize the probability of "take" are described elsewhere in this biological assessment (see Section III, Proposed Action). We consider the probability of "take" to be quite low as adult and juvenile bull trout can move rapidly in response to a sediment pulse and construction activity. The project will degrade habitat quality in the short-term (about two weeks) and maintain current conditions in the long-term.

If the siphon is replaced, DNRC plans to replace the East Fork canal headgate, including the installation of a fish screen to prevent entrainment of bull trout and other fish species (the 1936 permit from the U.S. Forest Service required installation of fish screens on all project diversion points). Current plans are to apply to the Montana legislature for funding this project within

three to five Montana legislative cycles. Screening the ditch as a part of this proposed NRCS siphon replacement project is not feasible given the impending headgate replacement in the near future. Screening the ditch at that time will, in part, restore the bull trout subpopulation below the East Fork Dam by eliminating unnecessary loss of fish from the East Fork. DNRC has requested that studies be conducted to quantitatively evaluate the species and life stages of fish using the East Fork in the project reach and entrained into the East Fork canal. This data would be used to determine the exact type of screen required to protect the target fish species and life stages. In 2002, DNRC applied for Fisheries Restoration and Irrigation Mitigation Program (FRIMA) funds to screen the main canal. The FRIMA committee denied this request because of a lack of specific data on fish use of the East Fork between the dam and diversion and fish entrained in the East Fork canal.

The Flint Creek Water Users have agreed to maintain a minimum flow of 5 cfs in the East Fork during the irrigation season if the siphon replacement is completed. This will, to a small degree, have a "Restore" effect on East Fork bull trout habitat as summer water temperature and pool depth are improved. The best estimate we have for minimum flows required to sustain bull trout ranges from slightly over 5 to 12 cfs. The average June and July low flows (1994-2001, 2004) were 1.4 and 1.9 cfs, respectively. Maintaining 5 cfs during the irrigation season will improve habitat conditions while maintaining irrigators' legal rights to divert water.

Indicator: Growth and Survival

A number of factors associated with the East Fork irrigation system result in a "Functioning at Unacceptable Risk" determination for growth and survival of threatened bull trout. The presence of the dam prevents access to spawning habitat and out-migration of adults and juveniles to larger river systems. (At the same time, the dam may prevent the upstream spread of brown trout which directly compete with, and prey on, bull trout, which appear to be maintaining a stable population in East Fork reservoir and in the stream above the reservoir.) Operation of the dam has also nearly eliminated regular spring flushing flows important to channel maintenance, bank building, riparian vegetation establishment and removal of tubifex worms and TAM spores responsible for whirling disease. Adult and juvenile bull trout are lost in the East Fork ditch and siphon. Low flows during the irrigation season reduce available pool habitat and may cause a thermal barrier to migrating bull trout as summer water temperatures exceed 15 degrees Centigrade.

Grazing management in the proposed project reach adds to the stressors affecting growth and survival of bull trout. Bank trampling and browsing of woody riparian vegetation has reduced habitat complexity in the reach.

Effects of the Proposed Action

The proposed siphon replacement, in and of itself, will have no long-term effect on growth and survival of East Fork and Flint Creek bull trout populations since existing conditions will be unchanged. In the short-term, increased sediment and direct habitat disturbance during construction has the possibility of causing "take" of juvenile and/or adult bull trout. Measures proposed to minimize the probability of "take" are described elsewhere in this biological

assessment (see Section III, Proposed Action). We consider the probability of “take” to be quite low as adult and juvenile bull trout can move rapidly in response to a sediment pulse and construction activity. The project will degrade habitat quality in the short-term (about two weeks) and maintain current conditions in the long-term.

The proposed siphon replacement will contribute to improved growth and survival of bull trout once DNRC replaces the East Fork canal headgate and installs a fish screen to prevent entrainment of fish. DNRC will be hesitant to install a new, screened diversion if the siphon is not replaced because of the possibility of catastrophic failure.

Indicator: Water Quality - Temperature

This indicator is currently rated as “Functioning at Risk.” Low flows during the irrigation season cause elevated water temperatures although this may be mitigated to some degree by cold water released from the bottom of East Fork Reservoir. Brad Liermann, FWP, has recorded water temperatures up to 17.5 degrees C; above the 15 degree safe level for bull trout. (These temperatures were measured at the Middle Fork bridge, lower in the drainage and do not represent accurate water temperatures in the project reach.). Elevated temperature could create a thermal barrier for migrating fish as well as a direct health hazard. Grazing management within the proposed project reach also contributes to elevated water temperatures. The stream channel is somewhat over-widened and willow canopy cover somewhat reduced from grazing and trampling impacts.

Effects of the Proposed Action

The proposed siphon replacement will have no long-term effect on water temperature since existing conditions will not change. It is doubtful that construction activities will have any measurable short-term effect on water temperature in the project reach.

Indicator: Sediment and Substrate Embeddedness

This indicator is assessed as “Functioning at Unacceptable Risk” for the proposed project reach. We have no quantitative data documenting the degree of sedimentation and substrate embeddedness in the East Fork. However, visual assessment of existing streambed conditions and the influence of the dam in limiting spring flushing flows point to this high risk categorization. Again, livestock trampling and grazing impacts along the project reach further contribute to degraded habitat condition. The Montana Department of Environmental Quality (DEQ) describes the East Fork as “Not Supporting” aquatic life and a cold water fishery in part because of sedimentation/siltation (Montana DEQ, Clean Water Act Information Center – CWAIC - 2006). Probable causes include impacts from hydro-structure flow, regulation/modification and grazing (poorly controlled grazing) in riparian/shoreline zones. Brad Liermann, FWP, conducted a stream corridor assessment of the East Fork at two sites using the NRCS Riparian Assessment method. He concluded that dewatering and grazing management have altered channel dynamics and sediment transport.

Effects of the Proposed Action

In the long-term, the proposed siphon replacement itself will have no effect on sediment and substrate embeddedness as existing conditions will not be changed. However, short-term, construction related sediment production is the primary reason for a “Likely to Adversely Affect” determination of project effects on threatened bull trout. Section III, Proposed Action, describes measures planned to minimize the probability of “take” during the siphon replacement. The proposed construction timing and methods are those required by FWP for '124' permit compliance. FWP has indicated that the siphon replacement, in and of itself, will not be of significant concern regarding adverse impacts to bull trout if the stipulations in the '124' permit are followed.

Indicator: Chemical Contamination/Nutrients

There is little likelihood of upland chemical or nutrient inputs to the East Fork between the dam and siphon crossing from irrigation system-related factors. However, DEQ (CWAIC, 2006) lists chlorophyll and nitrates as sources of aquatic life and cold water fishery impairment. Livestock grazing management in the project reach may be the cause of elevated levels of these nutrients. Low water levels and associated increased water temperature may be correlated with high chlorophyll levels. We assess this indicator as “Functioning at Risk” in the project reach.

Effects of the Proposed Action

We envision no long- or short-term effects of siphon replacement on the chemical contamination/nutrients indicator.

Indicator: Habitat Access - Physical Barriers

This indicator is “Functioning at Unacceptable Risk.” The East Fork Dam prevents bull trout from accessing the upper watershed. Low summertime flows combined with elevated water temperature may prevent bull trout from moving upstream toward spawning habitat. The East Fork canal entrains bull trout which are then lost in the siphon.

Effects of the Proposed Action

The proposed siphon replacement will have no effect on this indicator. However, if the siphon is replaced, the water users will leave a minimum of 5 cfs in the stream during the irrigation season. DNRC will screen the canal diversion as a part of replacing the canal headgate as well. Both of these actions will improve bull trout habitat conditions. DNRC plans to apply for funds to replace the diversion headgate and screen the intake within three to five legislative cycles. Both of these actions depend on having the siphon replaced so DNRC and the Flint Creek Water Users (FCWU) have assurance that the irrigation system will remain functional.

Indicator: Large Woody Debris

The East Fork is “Functioning at Risk” for this indicator. Grazing impacts have probably reduced inputs of willow stems and root wads that fall into the stream. The dam eliminates

recruitment of large conifer trees carried by spring runoff from higher in the drainage. Large woody debris provides cover for bull trout and forms pool habitat and traps sediment for bank building.

Effects of the Proposed Action

The siphon replacement will have no short- or long-term effect on this indicator.

Indicator: Pool Frequency and Quality

We have no quantitative data comparing pool frequency and quality in the project reach to a suitable reference reach. However, the combination of low flows during the irrigation season, a dramatic reduction in frequency of spring flushing flows, and grazing management impacts points to a “Functioning at Unacceptable Risk” determination for this indicator. Elevated summer water temperatures and reduced overhead vegetative cover over pools further contributes to lowered pool quality. DEQ (CWAIC, 2006) lists alteration of streamside vegetative cover as a probable source of aquatic life and cold water fishery impairment in the East Fork.

Effects of the Proposed Action

There will be no long-term effects from the siphon replacement, in and of itself, on frequency and quality of pools. The short-term sediment pulse during construction is an adverse effect. Section III, Proposed Action, describes measures that will be used to minimize adverse effects. These measures are required by Montana FWP for compliance with the '124' permit.

The Flint Creek Water Users have agreed to maintain a minimum of 5 cfs in the East Fork during the irrigation season if the siphon is replaced. This will, to a small degree, have a positive effect on pool frequency and quality. The best estimate we have for minimum flows required to sustain bull trout ranges from slightly over 5 to 12 cfs. The average June and July low flows (1994-2001, 2004) were 1.4 and 1.9 cfs, respectively. Maintaining 5 cfs during the irrigation season will improve habitat conditions while maintaining irrigators' legal rights to divert water.

Indicator: Channel Condition and Dynamics – Average Channel Width:Depth Ratio

Normal stream channel dynamics in the East Fork have been dramatically altered by the presence and operation of the dam. Spring flushing flows are rare. This prevents the on-going formation and maintenance of a narrow, deep channel. Instead, the stream is over-widened and shallower compared to its potential. Grazing impacts have also contributed to this somewhat degraded condition. Brad Liermann, FWP, noted that the East Fork width-depth ratio is somewhat higher than expected for a Rosgen “C” channel while conducting a stream corridor assessment. The altered channel is significantly less suitable as bull trout habitat for a number of reasons discussed in this section. The East Fork is “Functioning at Risk” for this indicator.

Effects of the Proposed Action

The proposed siphon replacement will have no short- or long-term effects on the channel width:depth ratio. However, landowners associated with the irrigation system have offered to work with NRCS to improve riparian/streambank condition in the project area following replacement of the siphon.

Indicator: Streambank Condition

A lack of spring high water events in the East Fork and reduced sediment input from sources above the dam limits the bank building function associated with these flows. This, combined with grazing/trampling in the project reach, results in a streambank condition indicator of "Functioning at Risk." A FWP stream corridor assessment (Brad Liermann, FWP, pers. comm., 2007) noted excessive streambank erosion associated with livestock impacts.

Effects of the Proposed Action

The siphon replacement will have no long-term effect on streambank condition in the project reach. There will be short-term effects at the siphon crossing. Compliance with '124' permit stipulations will minimize any adverse effects. Montana FWP fisheries biologists do not consider the siphon replacement itself to represent a significant adverse effect on bull trout or bull trout habitat if the requirements of the '124' permit are implemented (see Section III, Proposed Action).

Indicator: Floodplain Connectivity

Irrigation system-related impacts, including severely reduced spring runoff levels and low summer flows, result in a "Functioning at Unacceptable Risk" determination for this indicator. Over-bank flows are very infrequent relative to historic frequency. There has been a moderate degradation of wetland function and riparian vegetation succession associated with the operation of the East Fork Dam and irrigation system.

Effects of the Proposed Action

The siphon replacement itself will have no short- or long-term effects on this indicator. However, an increase in summer base flows, agreed to by the FCWU as a condition of receiving NRCS assistance, will improve floodplain connectivity to some extent.

Indicator: Change in Peak/Base Flows

This indicator is "Functioning at Unacceptable Risk." Operation of the East Fork Dam and associated irrigation system has caused 68 years of pronounced changes in spring peak flow and summertime base flow relative to an undisturbed watershed of similar size, geology and geography.

Effects of the Proposed Action

The proposed siphon replacement itself will not directly affect this indicator. However, the irrigators have agreed to maintain a minimum base flow of 5 cfs in the East Fork as a part of the overall project. This will have a minor “Restore” effect on bull trout habitat.

Indicator: Disturbance Regime

This indicator is “Functioning at Unacceptable Risk.” On one hand, there is a lack of normal disturbance from spring high water. On the other, there is chronic adverse disturbance from poorly controlled livestock grazing. Eliminating grazing could result in severe noxious weed infestations in riparian habitat. Changes in grazing management could improve streambanks, channel configuration and riparian habitat. As a group, the FCWU and DNRC have no control over grazing practices within the project reach. However, individual landowners have offered to work with NRCS to improve grazing management.

Effects of the Proposed Action

The siphon replacement will have no long-term effects on the disturbance regime since existing conditions will not change. There will be short-term adverse effects during construction in the form of sediment inputs to the East Fork. Section III, Proposed Action, outlines measures to be used to minimize the probability of “take.” These measures are required for compliance with the stipulations in the '124' permit. Montana FWP fisheries biologists have indicated that the siphon replacement will not significantly affect bull trout or their habitat if these measures are applied.

Integration of Species and Habitat Conditions

Cumulative disruption of habitat from the East Fork Dam and operation of the associated irrigation system has resulted in a clear, on-going threat to bull trout in the watershed. The dam has eliminated connectivity between the lower watershed and spawning/rearing habitat above the reservoir. At the same time, it is possible that the dam is limiting the adverse effects of competing brown trout in the upper watershed. A relatively stable bull trout population currently exists in East Fork Reservoir and East Fork Rock Creek upstream of the reservoir (Brad Liermann, FWP, pers. com., 2007). Grazing management in both the East Fork and Flint Creek (irrigated by East Fork water) continues to degrade bull trout habitat through direct streambank impacts as well as overuse of woody riparian vegetation. Entrainment in the East Fork canal and subsequent loss in the siphon also threatens the bull trout population. The overall evaluation of bull trout habitat condition is “Functioning at Unacceptable Risk.” See Table 1, Summary of Environmental Baseline and Project Effects.

Table 1. Summary of Environmental Baseline and Project Effects

Indicators	Environmental Baseline			Project Effects*		
	Functioning Appropriately	Functioning At Risk	Functioning At Unacceptable Risk	Restore	Maintain	Degrade
Subpopulation Size			X			X
Growth and Survival			X			X
Water Temperature		X			X	
Sediment and Substrate Embeddedness			X			X
Chemical Contaminants and Nutrients		X			X	
Physical Barriers			X		X	
Large Woody Debris		X			X	
Pool Frequency and Quality			X			X
Ave. Channel Width:Depth Ratio		X			X	
Streambank Condition		X				X
Floodplain Connectivity			X		X	
Change in Peak and Base Flows			X		X	
Disturbance Regime			X		X	
Integration of Species and Habitat Conditions			X		X Long-term	X Short-term

*All adverse effects are short-term; compliance with FWP's '124' permit will minimize "take"

Cumulative Effects Analysis

We know of no similar projects proposed within the East Fork, Flint Creek, or nearby watersheds. Cumulative effects on bull trout habitat from a combination of dam and associated irrigation

system operation and grazing management are significant as described above. Replacement of the East Fork canal siphon will facilitate improvement of bull trout habitat as discussed in the following section.

Determination of Effects

The proposed siphon replacement is "likely to adversely effect" bull trout because of the short-term possibility of causing "take" directly from construction activities and/or from associated sediment produced during construction. The potential for adverse effects will be minimized by strict adherence to the stipulations in DNRC's '124' permit from FWP (see Section III, Proposed Action). As noted above, FWP has indicated to NRCS that the siphon replacement by itself has little potential to adversely effect bull trout if the '124' permit stipulations are followed.

Failure to replace the siphon has potential to adversely affect bull trout both in the short- and long-term. First, a catastrophic failure of the siphon could deliver large amounts of sediment to the East Fork; a potential source of "take" as well. Secondly, a catastrophic siphon failure would remove 27,800 acre-feet of water from Flint Creek. Third, bull trout habitat improvement measures - such as maintenance of minimum summer flows in the East Fork, investigation of minimum reservoir levels required for bull trout, and installation of a fish screen on the canal inlet - depend on replacement of the siphon. (Minimum reservoir pool elevation is currently set at 6,000 feet by the DNRC's Operation and Maintenance Manual to prevent ice damage to the inlet structure. Work is needed to determine if this is adequate for bull trout. The bull trout population appears to be stable in the East Fork Reservoir and above.). DNRC and FCWU need to know that the irrigation system will remain functional before investing in improvements and management adjustments. Landowners involved with the irrigation system have also offered to work with NRCS to improve riparian and stream channel condition through grazing management planning. NRCS believes it is in the best interest of all affected parties - FWS, FWP, DNRC, FCWU - to replace the siphon during Fall 2008, as per the stipulations in the '124' permit.

The bull trout restoration goal for Rock Creek is to "Maintain self-sustaining bull trout populations in all watersheds where they presently exist" (Montana Bull Trout Restoration Team, 1998). Replacing the East Fork siphon can be a part of meeting this goal by maintaining existing, augmented stream flows in Flint Creek, making possible the screening of the East Fork diversion inlet and allowing for implementation of a minimum 5 cfs flow in the East Fork during the irrigation season.

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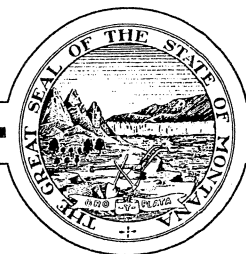
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March 13, 2008

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RE: East Fork of Rock Creek Water Storage Project and Take Permits

Dear Mr. Wilson:

This letter seeks to clarify and address concerns raised during recent conversations between the Montana Department of Natural Resources and Conservation (DNRC), U.S. Fish and Wildlife Service (USFWS), the U.S. Forest Service (USFS), Montana Division of Fish, Wildlife and Parks (DFWP), and the Natural Resource and Conservation Service (NRCS), concerning ongoing and future work on the East Fork of Rock Creek project, a state-owned water storage facility. Our current rehabilitation efforts on the East Fork Siphon provided the impetus for these discussions.

The item of specific concern is the rehabilitation of the diversion structure on the main canal feeding the siphon. This effort will primarily address the issue of integrating a fish screening system, as outlined in our current special use permit with the USFS. While it is too late to submit a request to our state legislative process for this year, we agree to submit the appropriate legislative request to the 2011 Legislative session (January 2011).

The DNRC will also research and apply for various funding sources for a fish screening system. Specific state funding programs include Future Fisheries, the Clarks Fork Restoration Fund, the Environmental Contingency Fund, and the DNRC Renewable Resource Grant and Loan (RRGL) program. If needed, federal sources such as the NRCS Environmental Quality Incentive Program and the USFWS Fisheries Restoration and Irrigation Mitigation Act (FRIMA) Grant program will also be looked at as possible resources.

For your information, a typical timeline for completing projects funded by the Montana legislature follows:

- January – February 2010: Submit proposed legislative request for internal DNRC review. For completeness, the request includes a cost estimate, identifies funding sources, and provides a design and construction timeline.
- May 2010: RRGL applications submitted to the DNRC Conservation and Resource Development Division.
- August 2010: Final legislative requests are submitted.

- January – April 2011: State legislature in session; legislative proposals are evaluated and approved / disapproved.
- July 2011: Beginning of the 2013 Biennium. The DNRC State Water Projects Bureau would begin the process of hiring a consultant for design.

Once the DNRC receives approval to proceed, pending unforeseen circumstances, engineering design and construction documents can be completed by January of 2012. Construction could likely begin early fall 2012, with final completion within two or three months.

For this schedule to work, the Department will need the appropriate biologic data from the DFWP, USFWS and the USFS. Grant and funding applications are competitive, and our success in obtaining them is contingent on providing the necessary supporting documentation. The DNRC also needs this data, along with the input from the identified agencies, to determine what type of screening system will be required to provide the fishery protection on this 200-cfs canal. As discussed in our conversations, a previous funding request to FRIMA submitted by DFWP in 2002 was denied for lack of supporting biologic data.

We anticipate that critical biological information needed to support this project will be provided by DFWP and the USFS in a timely fashion. This is important when working with various funding entities. Application deadlines, funding restrictions between fiscal years, and data requirements will likely be very different between each potential funding source. Any help in dealing with these issues will be greatly appreciated.

Given our commitment to the schedule above, it is our understanding that the USFWS will issue a take permit for Bull Trout to the DNRC until such time we have an appropriate screening system in-place. Also, per our conversation, you indicated that after the diversion is rebuilt and screen installed, the USFWS would need to issue another take permit to deal with the issue of incidental take into the canal, even with the screen in-place.

With a new siphon in-place this fall, and a new diversion with an appropriate fish screen in the near future, we can be assured of the continued agricultural and environmental benefits of the East Fork of Rock Creek Water Storage facility.

If you have questions or wish additional clarification on our legislative process, please contact Kevin Smith, State Water Projects Bureau Chief, at 444-2932 or email Ksmith@mt.gov.

Thank you for your time and assistance on this important project.

Respectfully,



Mary Sexton
Director, DNRC

cc: John Tubbs, DNRC
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Charlene Bucha Gentry, USFS
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